



### IMPROVEMENT TO THE TRENDING METHOD FOR LABOUR FORCE RATES AND RATIOS

#### Introduction

The Annual Seasonal Re-analysis (ASR), published in *Labour Force, Australia, April 2019*, identified potential improvements in the estimation of some Labour Force trend series by moving from direct trending to indirect trending. The ABS has completed further analysis, and, after consultation with a number of experts, will move to indirectly trend all rates and ratios, starting with the November issue of *Labour Force, Australia* (due for release on 19 December 2019).

This change will see all 118 series that were previously directly trended move to indirect trending. This will align these series with the 163 series already indirectly trended, including the underemployment and underutilisation series.

#### What is the difference between direct and indirect trending?

*Direct trending* for rates and ratios calculates the trend by applying the trend filter to the seasonally adjusted series of the rate or ratio.

*Indirect trending* for rates and ratios derives the trend estimate by dividing or summing the trend component estimates that make up the ratio.

For example, the trend unemployment rate for October 2019 in this release, under the two methods, would be calculated as follows:

Method	Calculation	Result
Direct Trending	Unemployed persons seasonally adjusted / Labour force seasonally adjusted ((726.0987143/13645.2935459*100) = 5.3212392). The trend filter is then applied over the seasonally adjusted ratio.	5.3% (5.2849476)
Indirect Trending	Unemployed persons trend / Labour force trend (722.3902011/ 13658.0837393*100)	5.3% (5.2891036)

The difference in this example is relatively minor, only evident at the third decimal place.

#### Benefits of the change

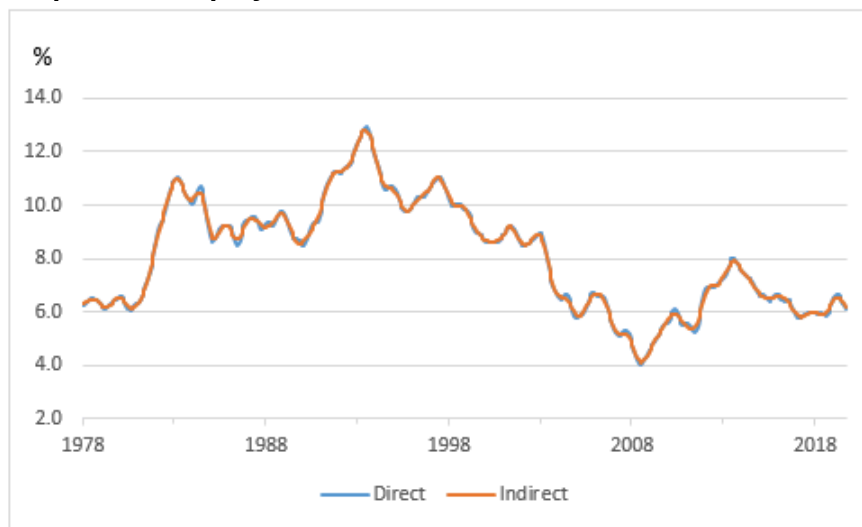
The indirect trending method:

- introduces *increased consistency* across labour force rates and ratios by having all the ratio series both indirectly seasonally adjusted and indirectly trended;
- is *simpler to interpret*, as any analyst can calculate the ratios for themselves;
- produces *historically smoother trend series*, particularly for rates and ratios of the smaller states and territories, given smaller states and territories have longer filter lengths for the series used in the indirect trending method (see Graphs 1 to 3 below); and
- results show *no discernible differences in trend estimates at the current end* when compared with

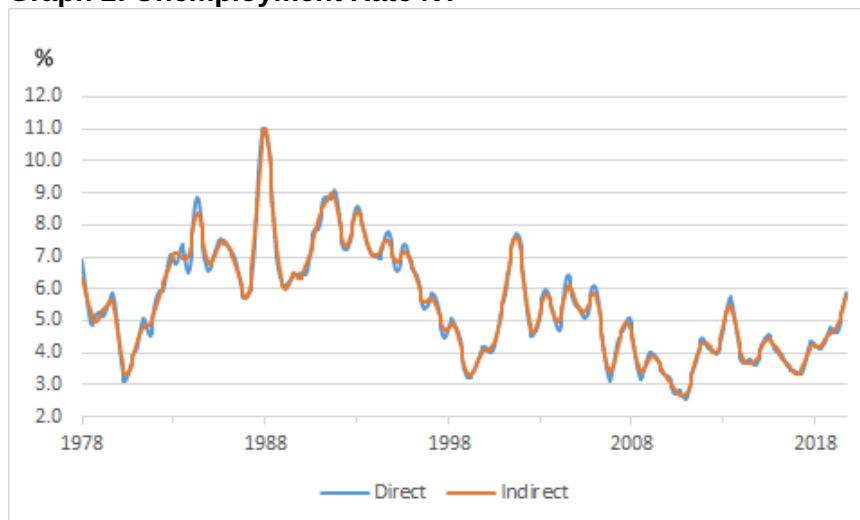
previously published estimates with similar results observed across both methods (see Graphs 1 to 8 below).

### Graphs 1-3: Comparison of direct and indirect trend smaller states, Unemployment Rate.

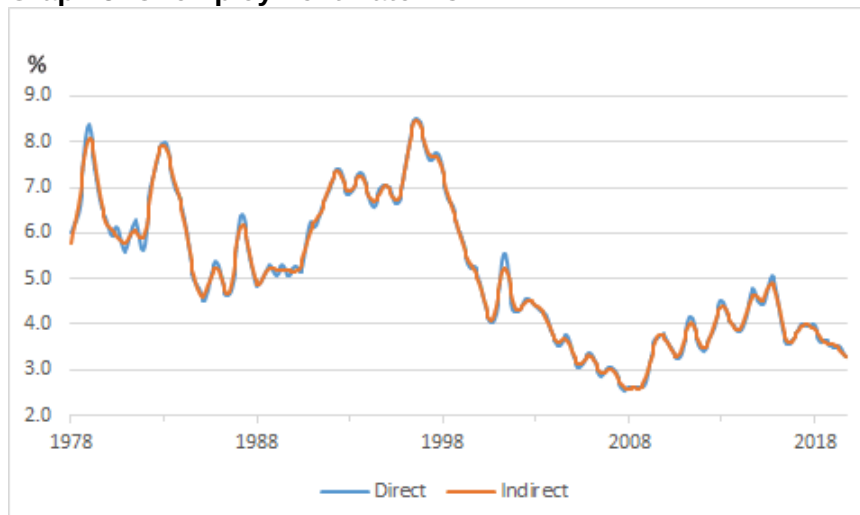
**Graph 1: Unemployment Rate TAS**



**Graph 2: Unemployment Rate NT**

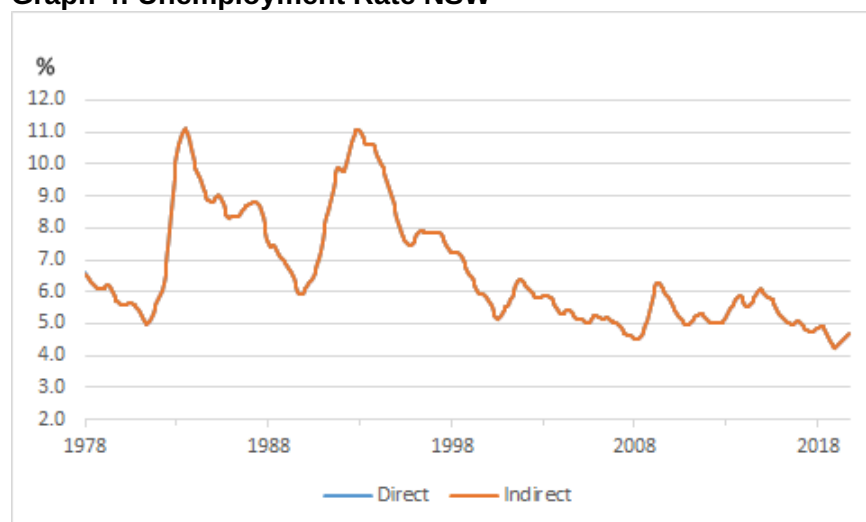


**Graph 3: Unemployment Rate ACT**



### Graphs 4-8: Comparison of direct and indirect trend larger states, Unemployment Rate.

**Graph 4: Unemployment Rate NSW**



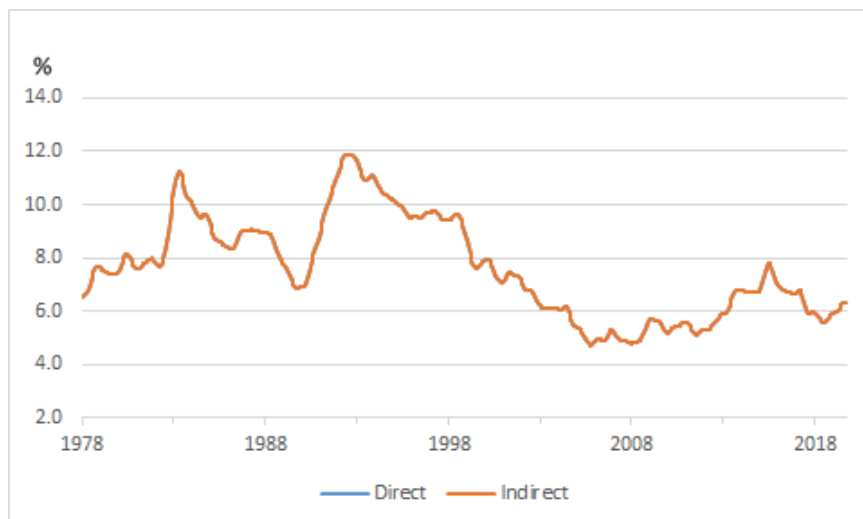
**Graph 5: Unemployment Rate VIC**



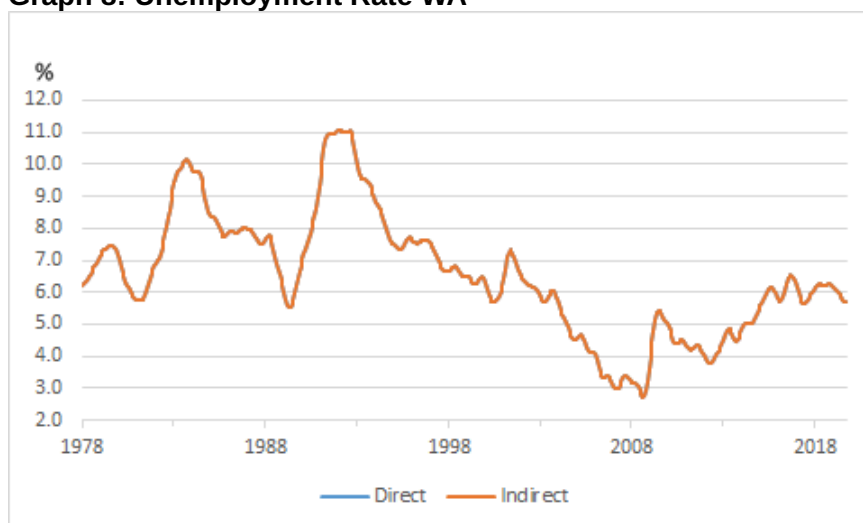
**Graph 6: Unemployment Rate QLD**



**Graph 7: Unemployment Rate SA**



**Graph 8: Unemployment Rate WA**



### For more information

If you have any questions about any of the analysis, please don't hesitate to contact us at [labour.statistics@abs.gov.au](mailto:labour.statistics@abs.gov.au)

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